

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of purifying wastewater that comprises including the steps of:

(i) passing the wastewater through an electrocoagulation cell which comprises a plurality of reaction plates or electrodes disposed within said cell and spaced apart from each other, whereby said wastewater is treated by passing an electric current through the wastewater to thereby produce purified water; producing an electrochemical reaction which generates a floc in the electrocoagulation cells, whereby the floc binds or absorbs impurities present in the wastewater;

(ii) passing the wastewater containing said floc having bound thereto said impurities into a coagulation tank or settling tank whereby froth and oil is discharged from the coagulation tank or settling tank at the top thereof through an adjacent conduit and said floc is discharged from the tank to produce purified water;

(iii) (iv) re-using said purified water for cleaning or other purposes to produce wastewater vehicles in a vehicle wash facility; and

(iv) recycling the wastewater back to the electrocoagulation cell.

2. (Currently Amended) The method of claim 1, wherein the wastewater is filtered prior to step (i) passing the wastewater through an electrocoagulation cell to remove large particles, if present, from the wastewater.

3. (Currently Amended) The method of claim 2, wherein particles with a size greater than 200 μm are removed.

4. (Currently Amended) The method of claim 1 and claim 2, wherein the wastewater is passed through one or a plurality of pre-treatment tanks to remove heavy oils, sludge and fuel, if present, from the wastewater.

5. (Currently Amended) The method of claim 1, wherein direct current is applied to the reaction plates or electrodes of the electrocoagulation cell.

6. (Currently Amended) The method of claim 1, wherein the electrocoagulation cell is ~~orientated~~ oriented vertically so that an outlet conduit is located at the top of the electrocoagulation cell and an inlet conduit is located at the bottom of the electrocoagulation cell.

7. (Currently Amended) The method of claim 1, wherein the voltage applied to the electrodes falls within the range 10-110 volts.

8. (Currently Amended) The method of claim 7, wherein the voltage applied to the electrodes falls within the range 20-80 volts.

9. (Currently Amended) The method of claim 7, wherein the voltage applied to the electrodes falls within the range 20-60 volts.

10. (Currently Amended) The method of claim 1, wherein the current applied to the reaction plates or electrodes falls within the range 2-100 amps.

11. (Currently Amended) The method of claim 10, wherein the current applied to the reaction plates or electrodes falls within the range 5-60 amps.

12. (Currently Amended) The method of claim 10, wherein the current applied to the reaction plates or electrodes falls within the range 5-20 amps.

13. (Currently Amended) The method of claim 1, wherein the electrodes are manufactured from a metal selected from the group consisting of aluminium, steel, iron, titanium, silver and brass.

14. (Currently Amended) The method of claim 13, wherein the electrodes are manufactured from aluminium or titanium.

15. (Currently Amended) The method of claim 1, wherein [[2-75]] 2 to 75 electrodes are used in the cell.

16. (Currently Amended) The method of claim 15, wherein [[2-26]] 2 to 26 of the electrodes are connected to the power supply.

17. (Currently Amended) The method of claim 1, wherein the flow rate of wastewater through the electrocoagulation cell falls within the range 2-1000 L/min.

18. (Currently Amended) The method of claim 17, wherein the flow rate falls within the range 5-200 L/min.

19. (Currently Amended) The method of claim 17, wherein the flow rate falls within the range 10-50 L/min.

20. (Currently Amended) The method of claim 1, wherein the purified wastewater is discharged into one or a plurality settling tanks for separation of contaminated floc, if present, from the purified wastewater.

21. (Currently Amended) The method of claim 20, wherein the settling tanks are connected to a rainwater collection tank to allow collected rainwater to be discharged into the settling tanks to increase the volume of water available for recycling.

22. (Currently Amended) The method of claim 1, wherein the purified wastewater is filtered prior to re-use.

23. (Currently Amended) The method of claim 22, wherein particles with a size greater than 10 μm are removed.

24. (Currently Amended) The method of claim 1, wherein the purified wastewater is stored in a storage tank before re-use.

25. (Currently Amended) The method of claim 1, wherein the purified water is stored in a sump after re-use.

26. (Currently Amended) The method of claim 1, wherein after step (i) the wastewater has passed through the coagulation or settling tank the wastewater is passed through a reverse osmosis system.

27. (Currently Amended) The method of claim 1, ~~and claim 26~~ wherein the wastewater is passed through a de-chlorination system after the wastewater has passed through the coagulation or settling tank.

28. (Currently Amended) The method of ~~any one of claims 1, 26 or 27~~ claim 1, wherein the wastewater is passed through a water softening system after the wastewater has passed through the coagulation or settling tank.

29. (Currently Amended) The method of claim 1, wherein prior to step (i) the wastewater may be obtained from public or household showers, sinks, basins, baths, washing machines, dishwashers, kitchens or car washes and may be initially stored in a collection tank or sump.

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43. (New) The method of claim 1, wherein no additional chemicals are added to the wastewater.

44. (New) The method of claim 43, wherein flocculant or coagulant is not added to the coagulation or settling tank.

45. (New) The method of claim 1, wherein the coagulation or settling tank has no additional separating device such as a magnetic separator.

46. (New) A method of purifying wastewater including the steps of:

(i) passing the wastewater through an electrocoagulation cell which comprises a plurality of reaction plates or electrodes disposed within said cell and spaced apart from each other, whereby said wastewater is treated by passing an electric current through the wastewater producing an electrochemical reaction which generates a floc in the electrocoagulation cell, whereby the floc binds or absorbs impurities present in the wastewater;

(ii) passing the wastewater containing said floc having bound thereto said impurities into a coagulation tank or settling tank whereby froth and oil is discharged from the coagulation or settling tank at the top thereof through an adjacent conduit and said floc is discharged from the tank to produce purified water

without addition of flocculant or coagulant to the wastewater in the tank or use of an additional separating device such as a magnetic separator in the tank;

- (iii) re-using said purified water for cleaning vehicles in a vehicle wash facility to produce wastewater; and
- (iv) recycling the wastewater back to the electrocoagulation cell.